

AMENDED IN SENATE APRIL 22, 2009

AMENDED IN SENATE APRIL 2, 2009

**SENATE BILL**

**No. 471**

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**Introduced by Senators Romero and Steinberg**

February 26, 2009

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An act to ~~amend Section 60204~~ *add Article 13 (commencing with Section 33475) to Chapter 3 of Part 20 of Division 2 of Title 2 of the Education Code, relating to education.*

LEGISLATIVE COUNSEL'S DIGEST

SB 471, as amended, Romero. ~~Education: stem cell research. California Stem Cell and Biotechnology Education and Workforce Development Act.~~

The California Stem Cell Research and Cures Act, an initiative measure approved by the voters at the November 2, 2004, general election (Proposition 71), establishes the California Institute for Regenerative Medicine (CIRM), the purpose of which is, among other things, to make grants and loans for stem cell research, for research facilities, and for other vital research opportunities to realize therapies, protocols, and medical procedures that will result in the cure for, or substantial mitigation of, diseases and injuries.

~~This bill would state findings and declarations of the Legislature relating to stem cell research and science, including the development of the California Stem Cell Education Initiative by the CIRM to educate California pupils about stem cell science and regenerative medicine, and to create pathways for careers in the stem cell industry. The bill would state the Legislature's findings and declarations that all education policymakers, including the State Department of Education, the Superintendent of Public Instruction, the State Board of Education, and~~

~~all other institutions of public education, including postsecondary schools, should collaborate to help CIRM advance its education initiatives, as specified.~~

~~Existing law requires the State Board of Education to adopt basic instructional materials for use in kindergarten and grades 1 to 8, inclusive, and requires the Curriculum Development and Supplemental Materials Commission to make recommendations to the state board regarding policies and activities for the purpose of guiding and strengthening the quality of instruction in the public schools.~~

~~This bill would also require the commission to make those recommendations for the purpose of promoting pupil awareness of career opportunities in industries facing workforce shortages.~~

~~This bill would create the California Stem Cell and Biotechnology Education and Workforce Development Act of 2009 to establish stem cell and biotechnology education and workforce development as a state priority and to promote a stronger link among industry sectors, the California Institute for Regenerative Medicine (CIRM), and California public schools. This bill would require the State Department of Education, in consultation with the CIRM and representatives of the biotechnology industry, to promote stem cell and biotechnology education and workforce development in the department's existing programs, as specified.~~

~~The bill would also require the state board to incorporate stem cell science curriculum content into science curriculum framework at its next science curriculum revision. The bill would request that the Regents of the University of California consult with the CIRM and representative of the biotechnology industry in developing curriculum for the California State Summer School for Mathematics and Science and it also would require the science subject matter project, upon agreement by the Regents of the University of California, in consultation with the CIRM and representatives of the biotechnology industry, to pursue opportunities to include stem cell and biotechnology science in professional development programs.~~

~~Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: no.~~

*The people of the State of California do enact as follows:*

- 1 SECTION 1. The Legislature finds and declares all of the
- 2 following:

1 (a) If California is to retain its premier position in stem cell  
2 research and fully realize the medical and economic benefits of  
3 regenerative medicine, a stronger link is needed between California  
4 public schools and this emerging industry.

5 (b) At the November 2004 statewide general election, California  
6 voters approved Proposition 71, the California Stem Cell Research  
7 and Cures Initiative, which authorizes \$3 billion in state bond  
8 funding for stem cell research at California universities and  
9 research institutions and added Article XXXV to the California  
10 Constitution and Sections 125290.10 et seq. to the Health and  
11 Safety Code.

12 (c) Proposition 71 established a new state agency, the California  
13 Institute for Regenerative Medicine (CIRM), to make grants and  
14 provide loans for stem cell research and research facilities.

15 (d) The ballot pamphlet information and findings and  
16 declarations of Proposition 71 described how stem cell research  
17 will lead to the development of life-saving regenerative treatments  
18 and cures for a variety of incurable diseases, including cancer,  
19 diabetes, heart disease, Alzheimer's disease, Parkinson's disease,  
20 spinal cord injuries, multiple sclerosis, and Huntington's disease;  
21 and also benefit the California economy by creating projects, jobs,  
22 and therapies that will generate millions of dollars in new tax  
23 revenues in our state and advance the biotech industry in California  
24 to world leadership as an economic engine for California's future.

25 (e) The public funding of stem cell research, combined with  
26 significant private donations, has made California the national  
27 leader in stem cell research.

28 (f) After President Bush limited federal funding for embryonic  
29 stem cell research in 2001, most states eliminated or significantly  
30 reduced stem cell research.

31 (g) On March 9, 2009, President Obama issued an executive  
32 order lifting restrictions on federal funding for stem cell research,  
33 leading other states to move quickly to try to catch up to California.

34 (h) Several recent reports have predicted that California will  
35 soon face a dramatic shortage of trained professionals to fill jobs  
36 in the life sciences sector and a more widespread shortage of  
37 college educated and technically trained workers to meet industry  
38 demands.

1 (i) California's growing gap between supply and demand for  
2 college educated and technically trained workers is exacerbated  
3 by an ~~alarmingly~~ *alarming* high school dropout rate.

4 (j) Education must be the cornerstone of California's economic  
5 development strategy, and education that is closely linked to the  
6 needs of emerging industries is critical.

7 (k) CIRM, in recognition that the rapid progress in stem cell  
8 research in California will lead to the development of treatments  
9 and cures, to the growth of regenerative medicine and the stem  
10 cell industry, and will require an expanding pool of individuals  
11 with specialized training and skills, has tentatively made Bridges  
12 to Stem Cell Research grants to fund research and training activities  
13 for postsecondary students interested in careers in regenerative  
14 medicine.

15 (l) CIRM also is developing a "California Stem Cell Education  
16 Initiative" aimed at high schools with the goal of broadly educating  
17 California pupils about stem cell science and regenerative medicine  
18 and creating pathways for careers in the stem cell industry.

19 ~~(m) In order to ensure that all California pupils have an~~  
20 ~~opportunity for a career in the stem cell industry and to ensure that~~  
21 ~~California fully realizes the medical and economic benefits of~~  
22 ~~regenerative medicine, all education policymakers, including the~~  
23 ~~State Department of Education, the Superintendent of Public~~  
24 ~~Instruction, the Secretary for Education, and the State Board of~~  
25 ~~Education, including the board's curriculum advisory commission,~~  
26 ~~and all institutions of public education, including postsecondary~~  
27 ~~schools, California Community Colleges, California State~~  
28 ~~University, and the University of California, should collaborate to~~  
29 ~~help CIRM advance its education initiatives, which may include,~~  
30 ~~but not be limited to, all of the following:~~

31 ~~(1) Developing and implementing a curriculum that includes~~  
32 ~~stem cell topics:~~

33 ~~(2) Developing and implementing pilot projects related to~~  
34 ~~curriculum and teacher professional development.~~

35 ~~(3) Providing high school pupils with laboratory research~~  
36 ~~opportunities.~~

37 ~~(4) Conducting outreach programs between high schools and~~  
38 ~~institutions of higher education:~~

39 ~~(5) Developing programs in magnet or charter schools with a~~  
40 ~~math-science focus and in partnership academies.~~

~~(6) Developing distance learning opportunities using the K-12 High Speed Network.~~

~~SEC. 2. Section 60204 of the Education Code is amended to read:~~

~~60204. The commission shall:~~

~~(a) Recommend curriculum frameworks to the state board.~~

~~(b) Develop criteria for evaluating instructional materials submitted for adoption so that the materials adopted adequately cover the subjects in the indicated grade or grades and comply with Article 3 (commencing with Section 60040) of Chapter 1. The criteria developed by the commission shall be consistent with the duties of the state board pursuant to Section 60200. The criteria shall be public information and shall be provided in written or printed form to a person requesting that information.~~

~~(c) Study and evaluate instructional materials submitted for adoption.~~

~~(d) Recommend to the state board instructional materials that it approves for adoption.~~

~~(e) Review and have the authority to adopt the educational films or videotapes produced in accordance with Article 3 (commencing with Section 52740) of Chapter 11 of Part 28.~~

~~(f) Recommend to the state board policies and activities to assist the state department and school districts in the use of the curriculum framework and other available model curriculum materials for the purpose of guiding and strengthening the quality of instruction in the public schools, and promoting pupil awareness of career opportunities in industries facing workforce shortages.~~

~~(m) *The biotechnology industry, in response to an ongoing shortage of appropriately educated and trained graduates to meet its workforce requirements, has invested tens of millions of dollars developing and implementing science and math education programs in California. The California Biotechnology Foundation is releasing a comprehensive directory of these industry programs as a resource for other schools to implement similar programs.*~~

~~(n) *In order to ensure that all California pupils have an opportunity for a career in the stem cell and biotechnology industries and that California fully realize the medical and economic benefits these industries offer, including the benefits made possible by the substantial public investment California has made in stem cell research and facilities, all education*~~

1 *policymakers and institutions of public education, and all relevant*  
2 *public agencies and industry organizations, should collaborate*  
3 *and make it a priority to increase stem cell and biotechnology*  
4 *education and workforce development.*

5 SEC. 2. Article 13 (commencing with Section 33475) is added  
6 to Chapter 3 of Part 20 of Division 2 of Title 2 of the Education  
7 Code, to read:

8  
9 Article 13. *The California Stem Cell and Biotechnology*  
10 *Education Workforce Development Act of 2009*  
11

12 33475. *This article shall be known, and may be cited, as the*  
13 *California Stem Cell and Biotechnology Education and Workforce*  
14 *Development Act of 2009.*

15 33475.1. *The purpose of this article is to establish stem cell*  
16 *and biotechnology education and workforce development as a*  
17 *state priority and to promote a stronger link among these industry*  
18 *sectors, the California Institute for Regenerative Medicine, and*  
19 *California public schools.*

20 33475.2. *For purposes of this article, the following definitions*  
21 *shall apply:*

22 (a) *“CIRM” means the California Institute for Regenerative*  
23 *Medicine.*

24 (b) *“Department” means the State Department of Education.*

25 33475.3. *The department, in consultation with CIRM and*  
26 *representatives of the biotechnology industry, shall promote stem*  
27 *cell and biotechnology education and workforce development in*  
28 *the department’s existing programs, including, but not limited to,*  
29 *all of the following:*

30 (a) *The California Health Science Educators Institute.*

31 (b) *The Health Science Capacity Building Project.*

32 (c) *The California Partnership Academies.*

33 (d) *The regional science resource centers, pursuant to Chapter*  
34 *3.6 (commencing with Section 44770) of Part 25 of Division 3.*

35 (e) *The California Resource Network, including the State Agency*  
36 *Partners Committee.*

37 (f) *Multiple pathway programs pursuant to Section 52372.5.*

38 (g) *The K-12 High Speed Network, pursuant to Section 11800,*  
39 *including its academic content platform.*

1     33475.4. *The department shall post on its Internet Web site*  
2 *information and links to information about the following:*

3     (a) *Existing biotechnology education programs, including, but*  
4 *not limited to, those identified by the California Biotechnology*  
5 *Foundation.*

6     (b) *CIRM education initiatives and related stem cell education*  
7 *and workforce development programs.*

8     33475.5. *The state board shall incorporate stem cell science*  
9 *curriculum content into science curriculum framework at its next*  
10 *science curriculum revision.*

11     33475.6. *The Regents of the University of California are*  
12 *requested to consult with the CIRM and representative of the*  
13 *biotechnology industry in developing curriculum for the California*  
14 *State Summer School for Mathematics and Science pursuant to*  
15 *Chapter 3.8 (commencing with Section 8660) of Part 6 of Division*  
16 *1 of Title 1.*

17     33475.7. *The science subject matter project described in*  
18 *Section 99201, upon agreement by the Regents of the University*  
19 *of California, in consultation with the CIRM and representatives*  
20 *of the biotechnology industry, shall include stem cell and*  
21 *biotechnology science in professional development programs.*

22     33475.8. *It is requested that the Independent Citizens Oversight*  
23 *Committee of CIRM, when allocating funds for stem cell research*  
24 *and facilities pursuant to Chapter 3 (commencing with Section*  
25 *125290.10) of Part 5 of Division 106 of the Health and Safety*  
26 *Code, consider education and workforce development in addition*  
27 *to other criteria, with the goal of furthering the purpose of this*  
28 *article.*